

Technical Assistance Webinar for NOT-MD-22-015 Notice of Special Interest (NOSI): Administrative Supplements to Support “All of Us” and Health Disparities-Related Pilot Research Projects at NIMHD-Funded Research Centers in Minority Institutions (RCMI)

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All of Us Research Program

Gage Rion, ME

All of Us Research Program

May 20, 2022

Webinar Begins at 3:30 PM EST



NIH National Institute
on Minority Health
and Health Disparities

Webinar Tips

Participants may ask questions using the chat feature. Questions will be answered during the Q&A session at the end of the webinar as time permits.

These slides and a recording of today's webinar will be [available at https://www.nimhd.nih.gov/funding/nimhd-funding/webinars.html](https://www.nimhd.nih.gov/funding/nimhd-funding/webinars.html)

Agenda

- I. NOSI background and research objectives
- II. *All of Us* Research Hub and Researcher Workbench
- III. Application and submission information
- IV. Review of applications
- V. Timeline for application submission
- VI. Questions

Part I

NOSI Background

and

Research Objectives

Background

- ❖ Purpose: Administrative Supplements to RCMI to support pilot research that use the *All of US* Research Program dataset.
- ❖ Background:
 - ❖ *All of Us* Research Program- Diverse dataset
 - ❖ Data collected include physical measurements, lifestyle questions, electronic health records, social determinants of health (available summer 2022)
 - ❖ NIMHD RCMI Program- institutions with a commitment to educating underrepresented students and for institutions that provide clinical services to the medically underserved.

Research Objectives

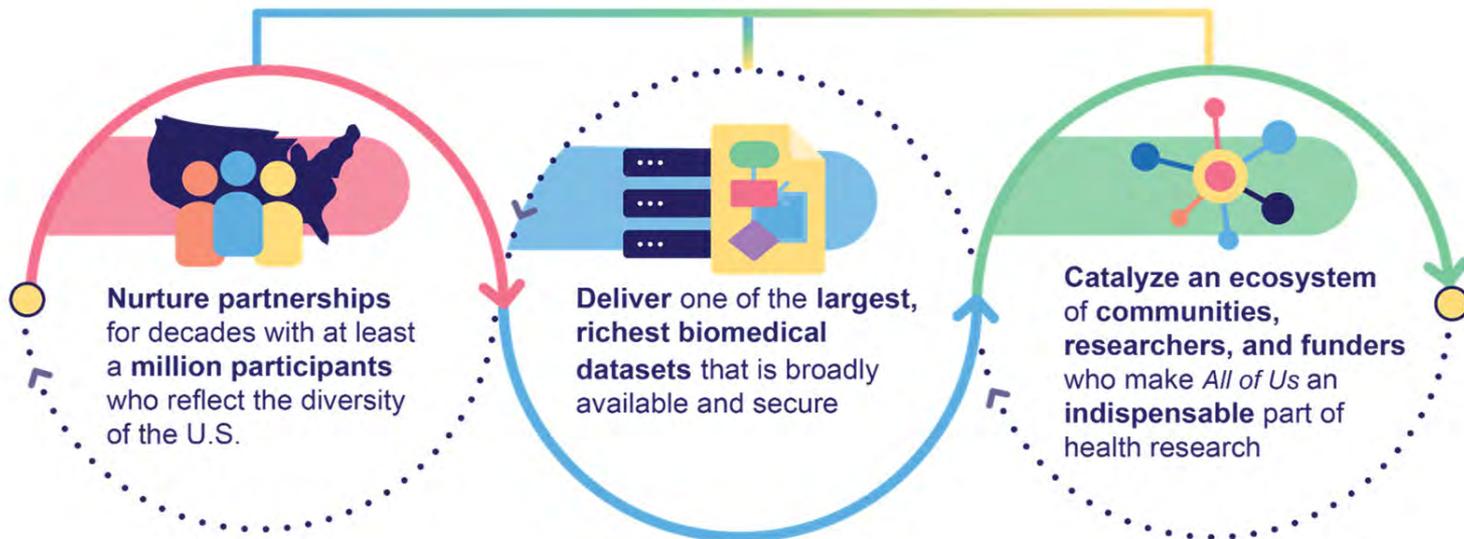
- *All of Us* Research Program and NIMHD RCMI's to support pilot projects led by ESIs using the *All of Us* dataset
 - Address minority health or health disparities for NIH-designated United States populations with health disparities
 - Pilot project investigations that align with the NIMHD framework are a priority.
<https://www.nimhd.nih.gov/about/overview/research-framework/nimhd-framework.html>
 - Cross-discipline collaborations
- Research topics (may include but are not limited to)
 - CVD risk, COVID-19, chronic conditions, mental health, injuries, sleep, substance use, social determinants influencing access and quality of care

Part II

The *All of Us* Research Hub and Researcher Workbench

Our Mission

Accelerate health research and medical breakthroughs,
enabling individualized prevention, treatment, and care for all of us



Made possible by a team that maintains a culture built around the program's core values

The *All of Us* Research Program: An Innovative Research Effort

- **Diversity at the scale of 1 million people or more**
- **Focus on participants as partners**
- **Longitudinal design, ability to recontact**
- **Multiple data types:** EHR, surveys, baseline physical measurements, biospecimens, genomics
- **National, open resource for all:** Broadly accessible to all researchers with open-source software & tools
- **Security and privacy safeguards** for all participant data



All of Us Consortium Members *(beyond community partners, as of October 2021)*

The Participant Center



Communications & Engagement



HPO Network

(Health Care Provider Organizations)

RMCs

All of Us California



Illinois Precision Medicine Consortium



All of Us New England



Trans America Consortium



New York City Consortium



All of Us Southern Network



All of Us Southeast Enrollment Center



HPO Lite



All of Us Wisconsin



All of Us Pennsylvania



University of Arizona and Banner Health



FQHCs (Federally Qualified Health Centers)



VA Medical Centers



Participant Technology Systems Center (PTSC)



Biobank



Data & Research Center (DRC)



Genomics Partners



All of Us Community and Provider Partner Network (as of October 2021)



Current protocol



Enroll, Consent and Authorize EHR

Recruiting 18+ years old initially; plan to include children in future
Online, interactive consent
Includes authorization to share EHR data



Answer Surveys

The Basics Health Care Access & Utilization
Overall Health Personal and Family Medical History
Lifestyle Social Determinants of Health

Additional surveys will be released on an ongoing basis



Provide Physical Measurements

Blood pressure Height BMI
Heart rate Weight Hip circumference
Waist circumference

Based on diverse sampling and capacity



Provide Biosamples

Blood (or saliva)
Urine specimen
Biosamples will be stored at the program's biobank

Based on diverse sampling and capacity



Share data from Wearables/Digital Apps

Share data from wearable fitness devices, starting with Fitbit

Coming soon:
Integrated apps to track mood & cardio-respiratory fitness

Selected Data Snapshots: Enrollment Progress

472,000+

Participants

324,000+

Participants who have completed initial steps of the program

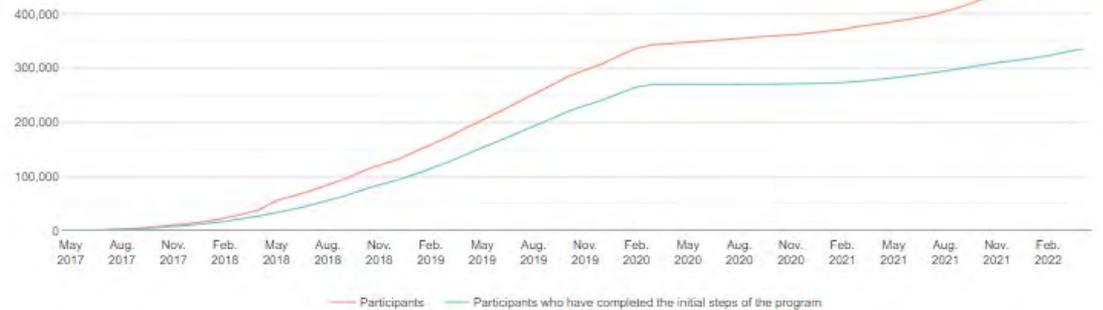
282,000+

Electronic Health Records

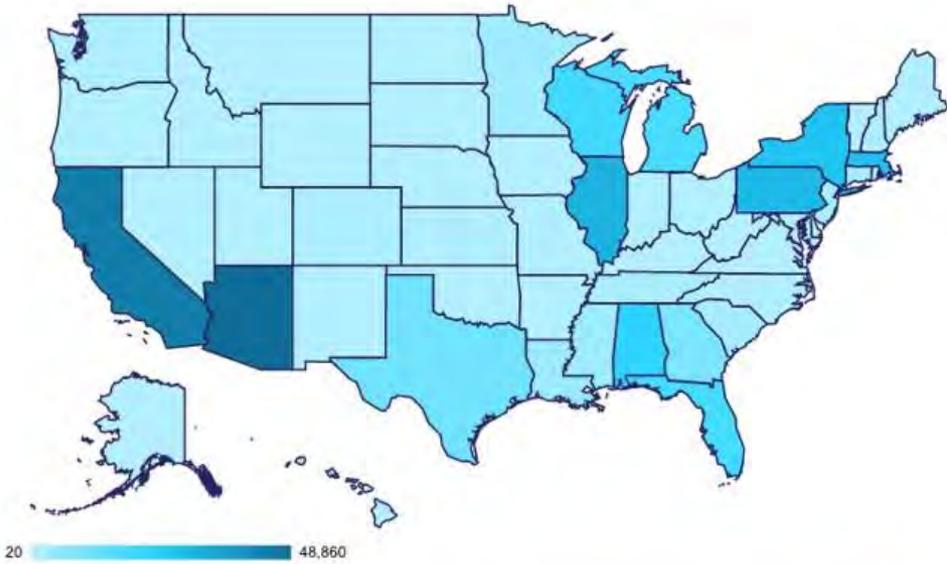
345,000+

Biosamples

Enrollment Numbers



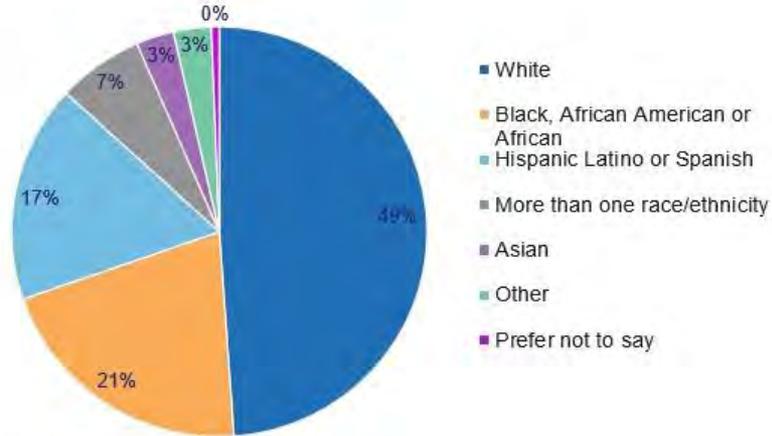
Commitment to All of Us Participant Diversity



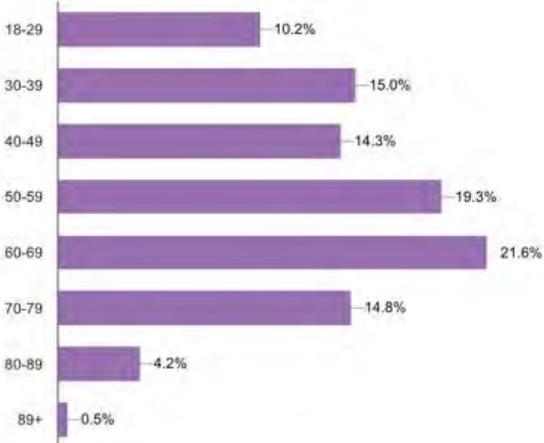
About 80% of All of Us participants are underrepresented in biomedical research

ResearchAllOfUs.org

Race and Ethnicity



Age



Researcher Workbench

By The Numbers



Data available in the researcher workbench



267,600+
Physical
Measurements



214,200+
Electronic Health
Records (EHR)



329,000+
Survey
Responses



98,600+
Whole Genome
Sequences



165,000+
Genotyping
Arrays

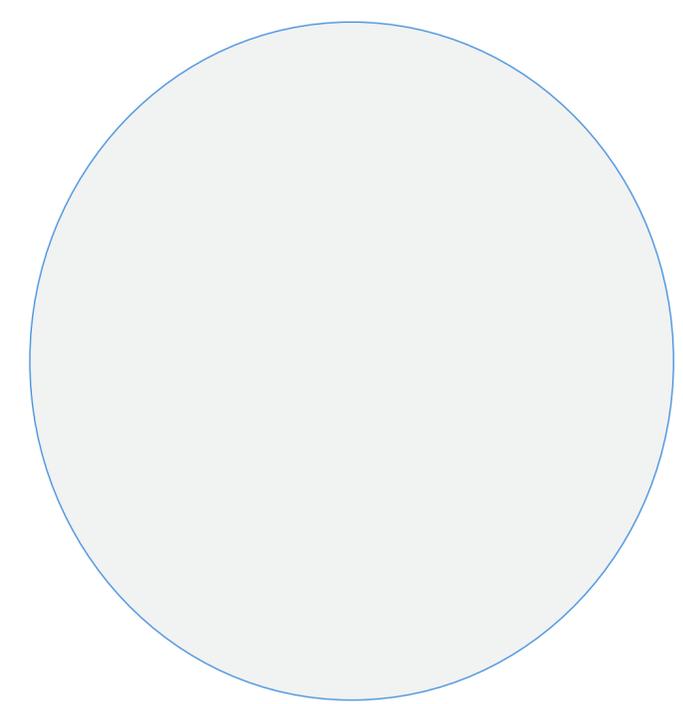


11,600+
Fitbit
Records

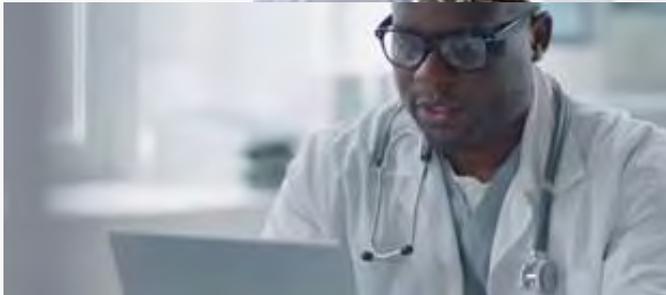
ResearchAllofUs.org

All of Us and the All of Us logo are registered service marks of the U.S. Department of Health and Human Services.

Data as of March 2022



Building a Diverse Researcher Cohort



- **Creating a demographically diverse researcher cohort** that promotes responsible and ethical use of data, returns value to participant communities, and accelerates research impact.
- **Encouraging student assemblies and early-stage investigators** to bring fresh, creative perspectives & innovative research outcomes.
- **Ensuring access for researchers from various institutions/organizations** to establish a truly equitable resource for all.

Create a new workspace (Required) ⓘ

Workspace name

Data access tier ⓘ

Dataset version ⓘ

All of Us billing account

The All of Us Research Program provides \$300 in free credits per user. Please refer to [this article](#) to learn more about the free credit program and how it can be used. Once you have used up your free credits, you can either select a shared billing account or create a new one using either Google Cloud Platform or a Google billing partner. Please note: If creating a billing account via a Google billing partner, it may take a few days to show up in the **Select account** dropdown.

Select a current billing account

- Billing is set at the workspace level
- All registered researchers receive an initial **\$300** in free compute credits
- Workspaces can be connected to billing accounts

92% of all researchers use **< \$100** in compute credits

88% use **< \$50**

80% use **< \$25**

How to develop a research question using the NIMHD framework and AoU data

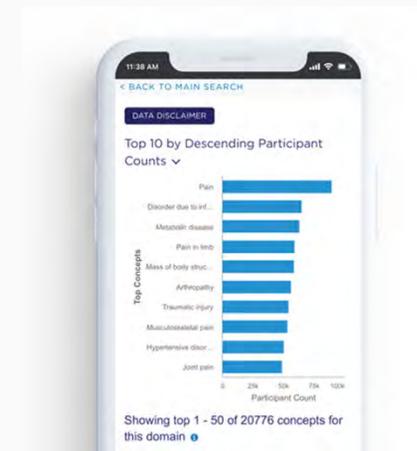
Step 1: Review the framework and select topic

Step 2: Review Public Tier of the *All of Us* Research Hub to confirm data availability in the *All of Us* data set

**National Institute on Minority Health and Health Disparities
Research Framework**

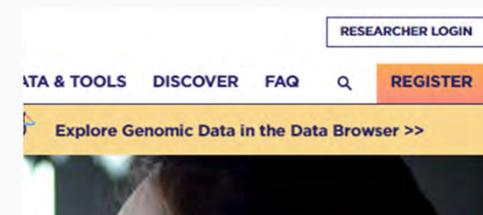
		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence (Over the Lifecourse)	Biological	Biological Vulnerability and Mechanisms	Caregiver-Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient-Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		Individual Health	Family/ Organizational Health	Community Health	Population Health

National Institute on Minority Health and Health Disparities, 2018
*Health Disparity Populations: Race/Ethnicity, Low SES, Rural, Sexual and Gender Minority
Other Fundamental Characteristics: Sex and Gender, Disability, Geographic Region



Step 3: Modify research question as needed based on data availability

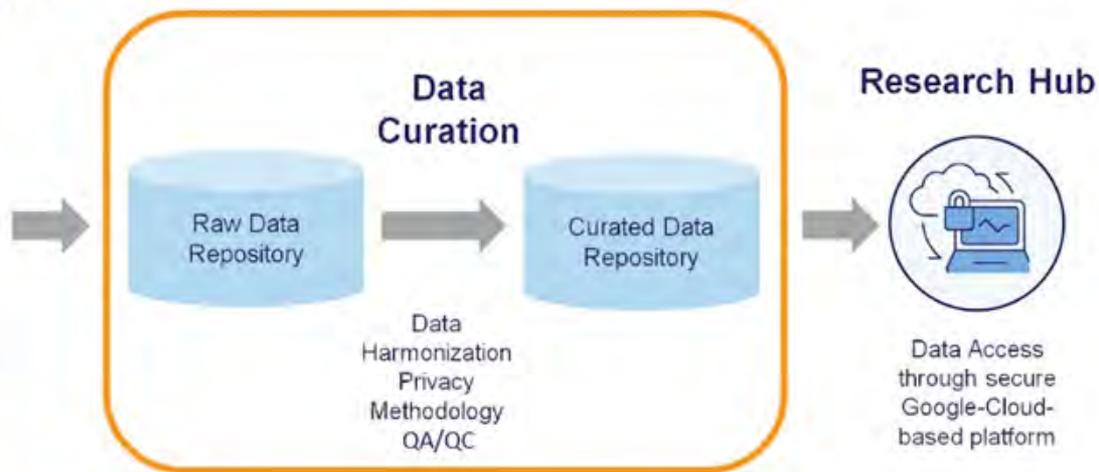
Step 4: Register for the Researcher Workbench for Registered and/or Controlled Tier data access (depending on the research question)



Research Hub and Researcher Workbench

All of Us Research Data Pipeline

Data Collection from Consented Research Participants



Principles of access & privacy: “Share widely and wisely.”

Broad and Open Access



“make my data useful”

A data resource for all of us

Remove unnecessary barriers to
access

Commitment to Protecting Privacy

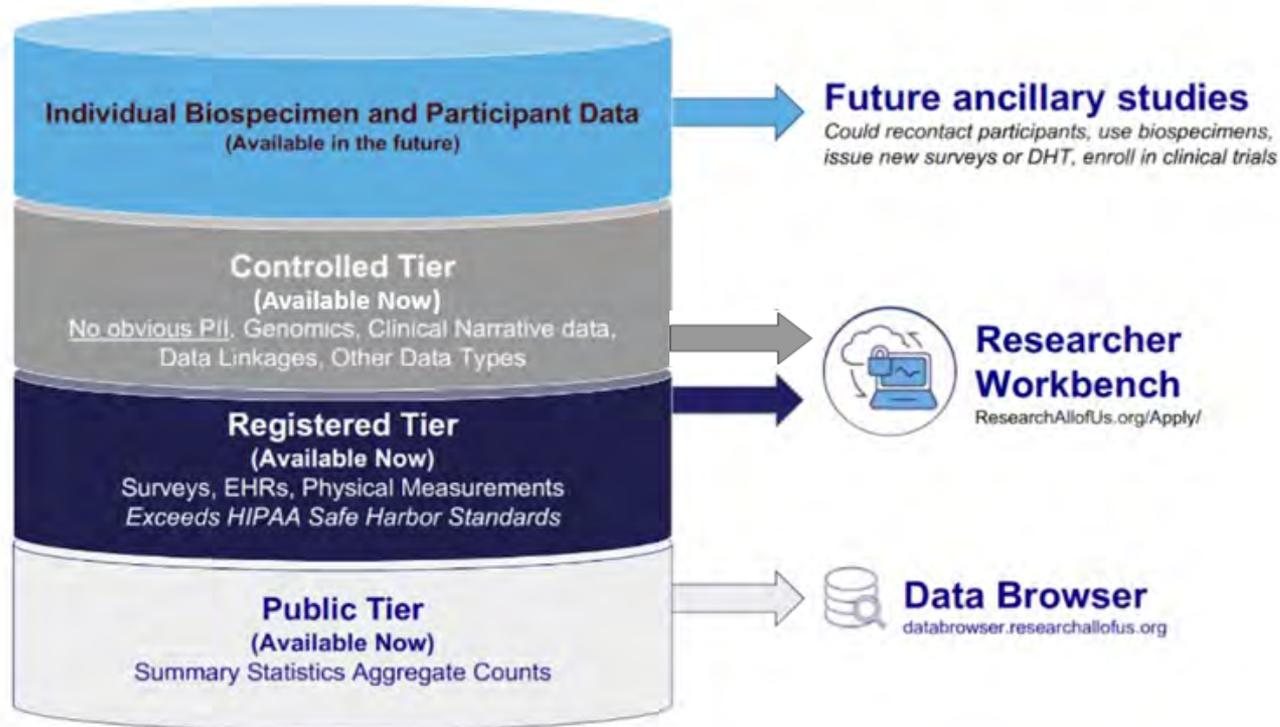


“keep my data safe”

Privacy first, privacy always

Strive to build a system that
participants can trust

Data and resource access is tiered.



Distinguishing between the Registered and Controlled Tier



Available to
registered
researchers

Registered Tier

Registered users can access curated, individual-level data and a variety of research tools to conduct a wide range of studies.



Surveys



Electronic Health
Records



Physical
Measurements



Wearables

Data have been processed to protect participant privacy

Controlled Tier

Registered users with amended institutional agreements can access **all of the data in the registered tier plus expanded and NEW data** including:



Genomics

- Expanded demographics
- Responses to entire COPE Survey
- COVID-19 EHR data
- Unshifted event dates
- Genomic data derived from WGS (~100k participants) and array genotyping (>165k participants)

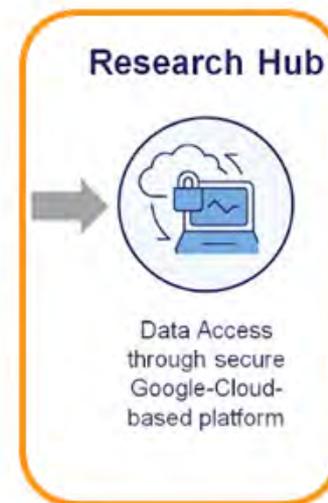
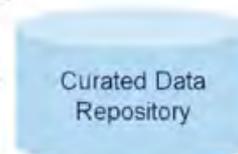
All of Us Research Data Pipeline

Data Collection from Consented Research Participants



Data Curation

Data Harmonization
Privacy
Methodology
QA/QC



The *All of Us* Research Hub

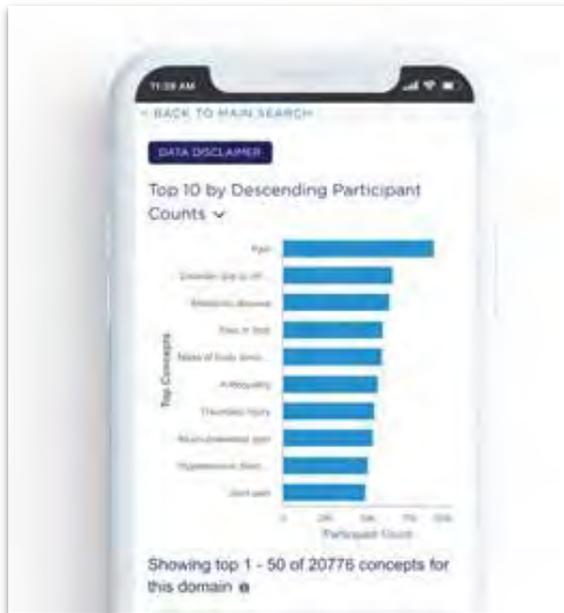


Learn. Discover. Connect.

<https://www.researchallofus.org/>

Public tools enable researchers to learn about data.

Data Browser



Survey Explorer



Survey Explorer

Transparency is essential to research. Learn how you can efficiently explore information used in a variety of research interests. Participants in the All of Us Research Program consent to explore secondary research of their own and others' demographic, health care and clinical data.

The platform has added safeguards to maximize privacy and confidentiality. We use deidentified information and secure data storage. We do not release information to third parties. We do not share information with any other researchers. We do not release information to any other researchers.

All participants consented to the core survey (The Basics, Overall Health, and Lifestyle). They may consent to additional surveys on health care access, personal and family medical history, and other topics.

Learn more about the All of Us Research Program <https://researchallofus.org>

The Basics This survey assesses basic demographic information, including language spoken at home, work and school, education, occupation, insurance, and other information. 1 New English version 1 New Spanish version View all survey versions	Lifestyle This survey asks questions about a participant's diet, physical activity, and recreational time. 1 New English version 1 New Spanish version View all survey versions
Overall Health This survey assesses information about a participant's overall health, including general health, daily functioning, and current health status. 1 New English version 1 New Spanish version View all survey versions	Personal Medical History This survey captures information about past medical history, including medical conditions, medications, and other information. 1 New English version 1 New Spanish version View all survey versions
Health Care Access & Utilization This survey asks questions about a participant's access to and use of health care. 1 New English version 1 New Spanish version View all survey versions	Family Medical History This survey asks about the participant's and a partner's (if applicable) knowledge of family medical history. 1 New English version 1 New Spanish version View all survey versions

Research Projects Directory



Research Projects Directory

1,456 ACTIVE PROJECTS

The Research Projects Directory includes information about all projects that currently exist in the Researcher Workbench to help provide transparency about how the Workbench is being used. Each project specifies whether [Restricted Use](#) or [Controlled Use](#) data are used.

Note: Researchers (Workbench users) provide information about their research projects independently. Views presented in the Research Projects Directory belong to the research user and do not necessarily represent those of the All of Us Research Program. Information in the Research Projects Directory is also made available on data.allofus.org in accordance with the 21st Century Cures Act.

Search By:

Effect of Social Determinants of health for septic patient 30 days readmission

Within our previous study using Datahub registered for v4 we found that Social determinants of health can improve the model accuracy for predicting power for 30 days readmission among septic patients. Within this study we seek to incorporate the role.

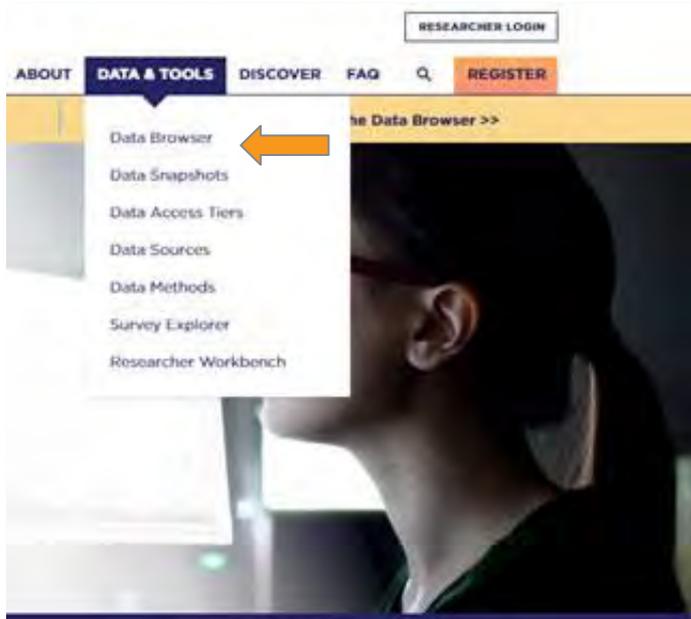
Stress Assessment from Wearables

This project focuses on predicting stress utilizing wearable sensors. In this regard, project will account wearable fitted data as well as survey data. Then, the project will develop a machine learning algorithm to predict stress where survey related to stress.

AllU_A3_EDL_GWAS_Hill

The main questions this workspace is attempting to address is whether a scalable GWAS can be created on the AllU platform and whether (and how) that GWAS can be optimized for run cost and time. Third questions are important for

<https://www.researchallofus.org/>



Search Across Data Types

Keyword Search

Data includes 331,360 participants and is current as of 11/29/2021.

EHR Domains

Conditions	Drug Exposures
23,300 medical concepts 201,920 participants in this domain	28,798 medical concepts 194,420 participants in this domain
View Conditions	View Drug Exposures

Genomics

Genomic Variants	Physical Measurements and Wearables
98,640 participants in the Whole Genome Sequencing (WGS) dataset 165,220 participants in the Genotyping Array dataset	8 Physical Measurements 274,540 participants in this domain Participants have the option to provide a standard set of physical measurements.
View Genomic Variants	View Physical Measurements

Survey Questions

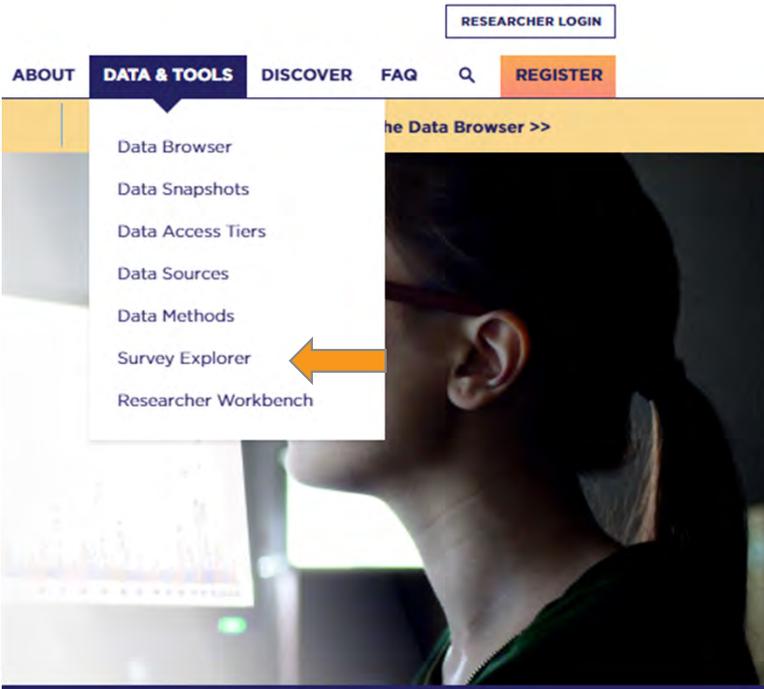
The Basics	Overall Health
28 questions available 331,360 participants in this domain This survey includes participant demographic information.	21 questions available 331,360 participants in this domain Survey includes information about how participants report levels of individual health.
View Complete Survey	View Complete Survey

IN THE PAST 12 MONTHS, have you delayed getting care for following reason: You live in a rural area where distance to the health care provider is too far?

[See Answers](#) ▾

Answer	Concept Code ⓘ	Participant Count ⓘ	% Answered out of 125200	
Delayed Care Rural Area: No	43529416	116,560	93.10%	
Skip	903096	4,700	3.75%	
Delayed Care Rural Area: Yes	43530110	3,580	2.86%	
Dont Know	903087	400	0.32%	
Did not answer	0	≤ 20	0.02%	





Survey Explorer

Surveys are valuable medical research tools because they efficiently capture information vital to a variety of research interests. Participants in the *AI of Us* Research Program respond to surveys spanning a variety of topics, including demographics, health care, and lifestyle.

The program has tested each survey for readability and accessibility. We use cognitive interviews and quantitative testing. This testing process included people from different educational backgrounds and geographic locations to capture a sample that reflects the U.S. population.

After participants complete the core surveys (The Basics, Overall Health, and Lifestyle), they may complete additional surveys on health care access, personal and family medical history, and other topics.

Learn more about the *AI of Us* Research Program [survey development process](#).

The Basics

This core survey asks basic demographic questions, including questions about a participant's work and home. Participants must complete this survey to access additional surveys.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Lifestyle

This survey asks questions about a participant's use of tobacco, alcohol, and recreational drugs.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Overall Health

This survey collects information about a participant's overall health including general health, daily activities, and women's health topics.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Personal Medical History

This survey collects information about past medical history, including medical conditions and approximate age of diagnosis.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Health Care Access & Utilization

This survey asks questions about a participant's access to and use of health care.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Family Medical History

This survey asks about the medical history of a participant's immediate biological family members.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

COVID-19 Participant Experience (COPE) Survey

This survey asks questions about the impact of COVID-19 on a participant's mental health, well-being, and everyday life. This survey was deployed to participants multiple times, beginning in May 2020.

[View English version](#)
[View Spanish version](#)

[EXPLORE SOURCE MATERIAL](#)

Research Projects Directory

1,497 ACTIVE PROJECTS

This information was updated 5/19/2022

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Search By:

4 projects have 'sdoh' in the project title

[Go back to All Projects View](#) or enter a new search query

Effect of SDOH for septic patient 30 days readmission & Survival

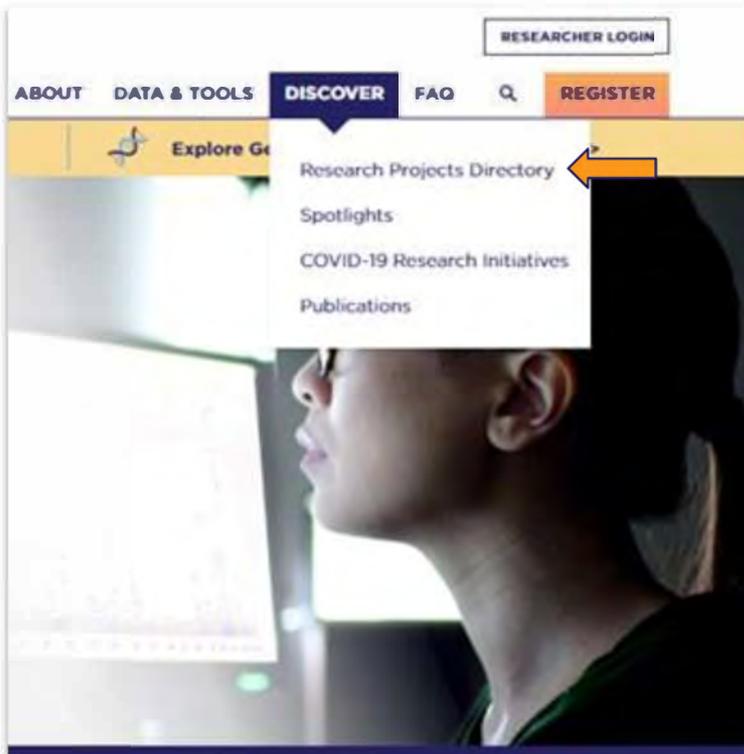
Within our previous study using Dataset registered tier v4 we found that Social determinants of health can improve the model accuracy for predicting power for 30 days readmission among septic patient and survival factors. Within this study i want to...

SDOH Spine

Evaluate the prevalence of orthopaedic pathologies across different sociodemographic populations Investigate social determinants of health (SDOH) in patients receive orthopaedic care and potential disparities Identify risk factors associated adverse events/negative treatment outcomes in orthopaedic patients Evaluate if health literacy and/or...

COVID SDoH

COVID-19 shed light on how socioeconomic disparities disproportionately increased susceptibility, morbidity, and mortality among racial and ethnic populations . Clinical risk factors can only partially explain the difference in hospitalizations and mortality observed in populations of varying socioeconomic status. It...



All of Us Publications

Read program-related publications through the links below.

There are currently **36 publications** and counting.

Last updated March 2022

Featured Publications



Hypertension prevalence in the *All of Us* Research Program among groups traditionally underrepresented in medical research

[Hypertension prevalence in the *All of Us* Research Program among groups traditionally underrepresented in medical research.](#)

Chandler PD, Clark CR, Zhou G, Noel NL, Achille C, Mendez L, Ramirez AH, Loperena-Cortes R, Mayo K, Cohn E, Ohno-Machado L, Boerwinkle E, Cicek M, Qian J, Schully S, Ratsimbazafy F, Mockrin S, Gebo K, Dedier JJ, Murphy SN, Smoller JW, Karlson EW. All of Us Research Program Investigators.

Sci Rep. 2021 Jun 22;11(1):12849. doi: 10.1038/s41598-021-92143-w. PMID: 34158555; PMCID: PMC8219813.

Spotlights



Relevant Date in Action

Replicating published findings on hypertension prevalence in diverse populations

March 9, 2022

Researchers at Brigham and Women's Hospital test whether hypertension prevalence in the *All of Us* dataset aligns with hypertension prevalence in the National Health and Nutrition Examination Survey.



Relevant Date in Action

New study fuels debate about the Latino Epidemiological Paradox in the U.S.

March 9, 2022

Researchers at the University of Miami leveraged the diversity and size of the *All of Us* dataset to test the theory that Latino individuals have similar or better health outcomes than their non-Latino counterparts.

Browse or Search all Publications

SEARCH by TITLE

SEARCH

SORT BY:

DATE ↓

TITLE ↑

Racial and ethnic disparities in cost-related barriers to medication adherence among patients with glaucoma enrolled in the National Institutes of Health *All of Us* Research Program

[Racial and Ethnic Disparities in Cost-Related Barriers to Medication Adherence Among Patients With Glaucoma Enrolled in the National Institutes of Health *All of Us* Research Program](#)

Delavar A, Radha Saseendrakumar B, Weinreb RN, Baxter SL. JAMA Ophthalmol. 2022 Mar 3. doi: 10.1001/jamaophthalmol.2022.0055. Epub ahead of print.

PMID: 35238904.

March 3, 2022



How to Register

STEP 1

LEARN MORE ABOUT THE DATA AVAILABLE

Explore the data available through the [Data Browser](#), which provides interactive views of aggregate-level participant data. Learn about individual-level [data access fees](#) and the [Researcher Workbench tools](#).

STEP 2

CHECK FOR YOUR INSTITUTION'S AGREEMENT

Before you can register, your institution must have a [Data Use and Registration Agreement](#) in place with *All of Us* to ensure data security.

STEP 3

CREATE A RESEARCHER WORKBENCH ACCOUNT

Complete your researcher profile, sign the Terms of Service, and agree to the Privacy Policy.

STEP 4

VERIFY YOUR IDENTITY USING LOGIN.GOV

Verify your identity using [Login.gov](#). You may need to provide an SSN and a state-issued ID. Your institution may also require you to use an eRA Commons account. If so, contact your institution directly. [Read more about Login.gov](#).

STEP 5

COMPLETE ALL OF US RESEARCH TRAINING

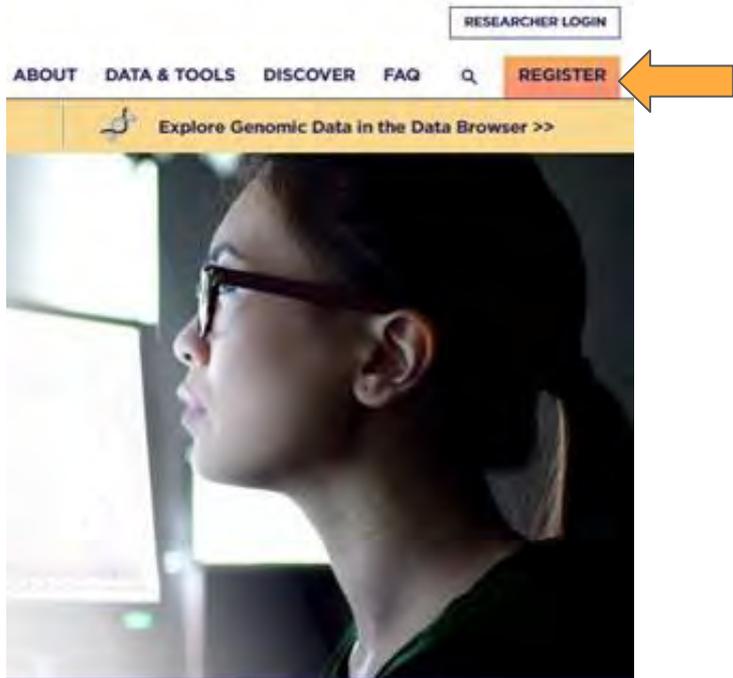
The mandatory training provides education on conducting responsible and ethical research with data from *All of Us* participants. Please allow at least one hour to complete.

STEP 6

SIGN THE DATA USER CODE OF CONDUCT

The Data User Code of Conduct is an agreement that outlines the program's expectations for researchers.

REGISTER



Institutional Agreements

Access to the *All of Us* Researcher Workbench Controlled and Registered Tier data is available to researchers with an institutional agreement in place. Any U.S.-based academic, nonprofit, or health care institution can enter into our Data Use and Registration Agreement. Below is the growing list of organizations that have already signed.

308
Institutions Have
Agreements in
Place

If your institution currently has an agreement that includes access to your preferred data tier, [create an account](#).

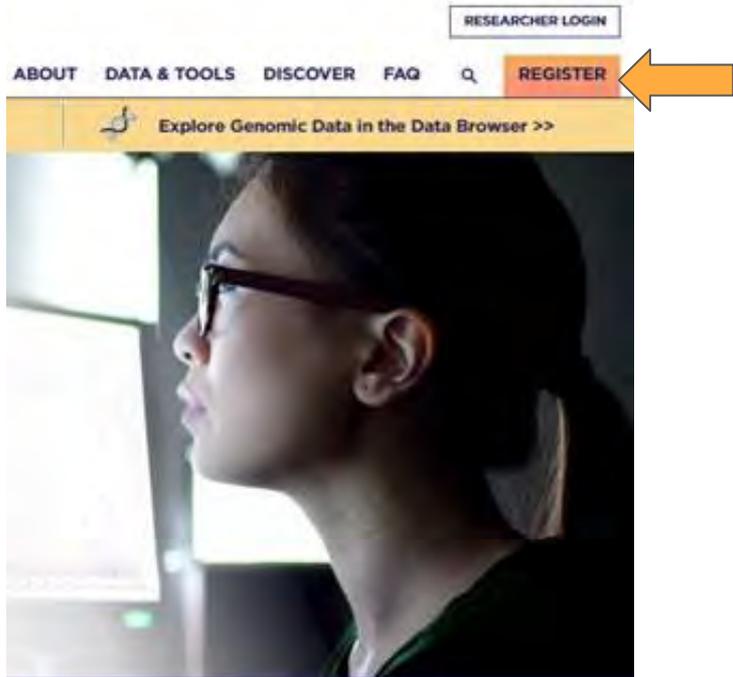
If your institution does not have an agreement that includes access to your preferred data tier or requires individual agreements, [submit a request](#).

Quick search - enter your institution's name

Key: R Registered Tier C Controlled Tier I Individual agreements required by institution E eRIA Commons required by institution

Institution	Access Level	Contact at Institution
A.T. Still University of Health Sciences	R C	Gayla Sublette
Alabama Agriculture and Mechanical University	R	Dáimian Clarke
Albany State University	R C	Louise Wrenford
Albert Einstein College of Medicine	R	John M. Grealy
Allergy & Asthma Network	R C	Tonya Winders

Institution	DURA	Registered Tier	Controlled Tier
UNIVERSITY OF HAWAII AT MANOA	Pending		
UNIVERSITY OF PUERTO RICO MED SCIENCES	Yes	X	
MEHARRY MEDICAL COLLEGE	Yes	X	X
CLARK ATLANTA UNIVERSITY	Pending		
XAVIER UNIVERSITY OF LOUISIANA	Yes	X	X
CHARLES R. DREW UNIVERSITY OF MED & SCI	Yes	X	
UNIVERSITY OF CALIFORNIA RIVERSIDE	Yes	X	X
NORTHERN ARIZONA UNIVERSITY	Pending		
NORTH CAROLINA CENTRAL UNIVERSITY	Pending		
MORGAN STATE UNIVERSITY	Yes	X	X
FLORIDA INTERNATIONAL UNIVERSITY	Pending		
SAN DIEGO STATE UNIVERSITY	Yes	X	X
UNIVERSITY OF TEXAS EL PASO	Yes	X	X
TEXAS SOUTHERN UNIVERSITY	Pending		
PONCE SCHOOL OF MEDICINE	Yes	X	X
MOREHOUSE SCHOOL OF MEDICINE	Yes	X	X
JACKSON STATE UNIVERSITY	Pending		
HOWARD UNIVERSITY	Yes	X	X
FLORIDA AGRICULTURAL AND MECHANICAL UNIV	No		
TUSKEGEE UNIVERSITY	Yes	X	X
UNIVERSITY OF HOUSTON	Pending		

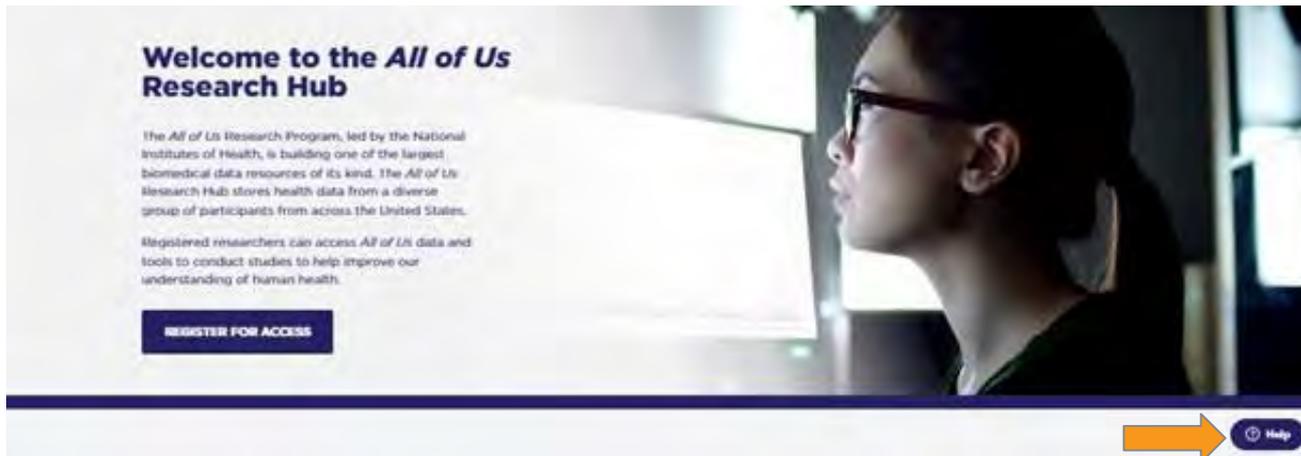


How to Register

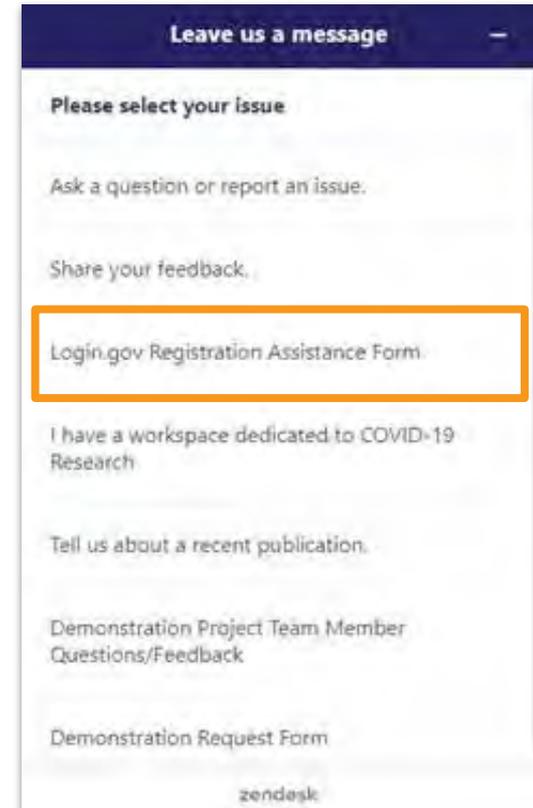
- STEP 1**
LEARN MORE ABOUT THE DATA AVAILABLE
Explore the data available through the [Data Browser](#), which provides interactive views of aggregate-level participant data. Learn about individual-level [data access fees](#) and the [Researcher Workbench tools](#).
- STEP 2**
CHECK FOR YOUR INSTITUTION'S AGREEMENT
Before you can register, your institution must have a [Data Use and Registration Agreement](#) in place with *All of Us* to ensure data security.
- STEP 3**
CREATE A RESEARCHER WORKBENCH ACCOUNT
Complete your researcher profile, sign the [Terms of Service](#), and agree to the [Privacy Policy](#).
- STEP 4**
VERIFY YOUR IDENTITY USING LOGIN.GOV
Verify your identity using [Login.gov](#). You may need to provide an SSN and a state-issued ID. Your institution may also require you to use an eRA Commons account. If so, contact your institution directly. [Read more about Login.gov](#).
- STEP 5**
COMPLETE ALL OF US RESEARCH TRAINING
The mandatory training provides education on conducting responsible and ethical research with data from *All of Us* participants. Please allow at least one hour to complete.
- STEP 6**
SIGN THE DATA USER CODE OF CONDUCT
The Data User Code of Conduct is an agreement that outlines the program's expectations for researchers.

REGISTER

Assistance with Registration



[Accessing Researcher Workbench via login.gov Tutorial](#)



Benefits of Registration



Available to
all registered
users

Resources

***All of Us* offers data and more.**

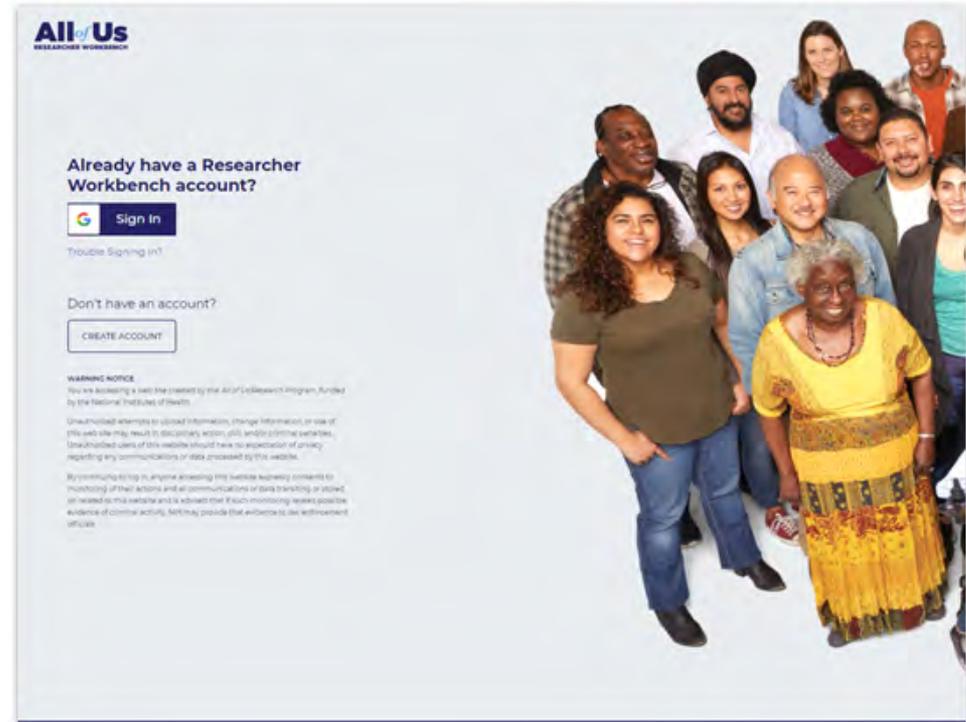
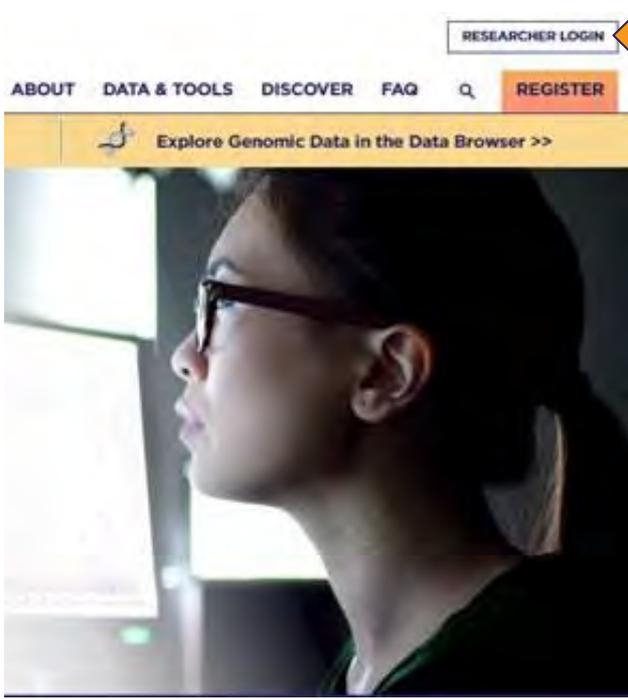
Registered users have access to:

- Platform and tools
- \$300 in initial credit
- User support materials and staff
- Opportunities to showcase work

Platform Uses

***All of Us* is for publishing and more.**

- Team science
- Dissertation
- Thesis
- Poster presentations
- Class projects
- Self-practice (especially data science)

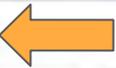


<https://www.researchallofus.org/>

Welcome to the
RESEARCHER WORKBENCH
 The secure platform to analyze All of Us data



Workspaces +



[See all workspaces](#)

HbA1c Distributions of Type 2 Diabetics

OWNER

Last Changed: 10/16/20, 10:01 PM

Original - How to Get Started with Registered Tier Data

WRITER

Last Changed: 10/22/20, 09:46 AM

R2019Q4R3 - How to Get Started with Registered Tier Data

READER

Last Changed: 10/26/20, 01:26 PM

How to Work with All of Us Survey Data

READER

Last Changed: 11/16/21, 01:28 PM

Recently Accessed Items

Item type	Name	Workspace name	Last changed	Dataset
Notebook	T2D_survey_jmp_hba1c	HbA1c Distributions of Type 2 Diabetics	May 14 2020	All of Us Dataset v5
Notebook	test	Type 2 Diabetes Test with Low	Apr 28 2020	All of Us Dataset v5
Notebook	Medication Sequences Code	Medications pathway (sequences) - Phase 1	Apr 27 2020	All of Us Dataset v5
Notebook	test	Feedback	Apr 23 2020	All of Us Dataset v5
Notebook	Concept Longitudinality	CDP Characterization	Apr 23 2020	All of Us Dataset v5

Showing 5 most recent items

Quick Tour and Videos

Workbench Quick Tour

Tutorial video
Introduction to the Researcher Workbench

▶ 2:13

Tutorial video
Cohort Builder & Cohort Review

▶ 2:26

Tutorial video
Dataset Builder & Concept Sets

▶ 2:49

Tutorial video
Notebooks & Code Snippets

▶ 2:54

Create a new workspace (Required) ⓘ

PROPOSAL TITLE Synthetic Dataset v4 ⓘ

All of Us billing account
The All of Us Research Program provides \$300 in free credits per user. Please refer to this article to learn more about the free credit program and how it can be used.

Select account
Use All of Us free credits [v] View free credits balance

Research Use Statement Questions Best practices for Research Use Statement questions

The All of Us Research Program requires each data user of the All of Us data to provide a meaningful description of the intended purpose of data use for each workspace they create. To provide transparency to All of Us Research Program participants, your answers below will be made available publicly in the Research Hub Directory on our public website. Your responses will not be used to make decisions about data access.

Note that you are required to create separate workspaces for each project for which you access All of Us data, hence the responses below are expected to be specific to the project for which you are creating this particular workspace.

1. What is the primary purpose of your project? Primary Required ⓘ

Form with radio buttons for Research purpose, Educational Purpose, For-Profit Purpose, and Other Purpose. Includes a text area for details under Other Purpose.

COPE Covid-19 Mitigation Behaviors

PROJECT PURPOSE(S)

- Population Health

SCIENTIFIC QUESTIONS BEING STUDIED

- Answers to COPE survey questions regarding adherence to COVID-19 mitigation recommendations will be used to answer the following questions:
1. Do responses vary by demographic characteristics including age, gender, race/ethnicity, household characteristics, employment status, and geographical variables such as urban/rural and state of residence?
2. Are differences in responses by state associated with contemporaneous state mandates regarding COVID-19 mitigation behavior, controlling for other factors identified in #1 above?
3. Do mitigation behaviors change over time?

Identification of variables associated with mitigation behaviors during the current pandemic may help improve further mitigation efforts, including for potential future pandemics.

SCIENTIFIC APPROACHES

- Using the datasets and tools within the AOURP Research Workbench for cohort creation and statistical analysis (including the R statistical program), we will:
1. Generate descriptive statistics on the sample of participants who answered the COPE surveys and compare with those of the overall AOURP cohort to assess generalizability of findings to the cohort and nationally.
2. Compare responses re: COVID-19 mitigation behaviors by demographic and geographic characteristics overall and between states, using bivariate statistics appropriate for the variable types.
3. Examine responses by level of contemporaneous state mandates regarding mitigation behaviors in multivariable regression models controlling for all other variables found to be associated with these behaviors in 2.
4. Perform a longitudinal analysis of changes in mitigation behaviors for individuals answering all 4 COPE surveys.

ANTICIPATED FINDINGS

We expect that mitigation behaviors are associated with many different demographic and geographic areas and change over time. Identification of the associated variables will contribute to the understanding of the effectiveness of public health messages and mandates, within demographic, geographic, and temporal contexts.

DEMOGRAPHIC CATEGORIES OF INTEREST

This study will not center on underrepresented populations.

RESEARCH TEAM

- Owner:
• Jill Waughin - Mid-career Tenured Researcher, Scripps Research

ⓘ Visit a Member of this Research Group





Workspaces >

HbA1c Distributions of Type 2 Diabetics

DATA
ANALYSIS
ABOUT
All of Us Dataset v3

Primary purpose of project ?

Research Purpose

Disease-focused research

type 2 diabetes mellitus

Other Purpose

This Workspace was developed for a demo to the NIH LCT.

Summary of research purpose

What are the specific scientific question(s) you intend to study, and why is the question important (i.e. relevance to science or public health)?

What is the HbA1c distribution of participants that self-reported having Type 2 Diabetes in the Personal Medical History Survey? How does this distribution compare with participants characterized as having Type 2 diabetes using EHR data? *Original Implementation of a phenotype algorithm for type 2 diabetes using EHR data is based on an algorithm obtained from the eMERGE network. Citation: Jennifer Pacheco and Will Thomson; Northwestern University. Type 2 Diabetes Mellitus. PheKB; 2012 Available from: <https://phekb.org/phenotype/18>

What are the scientific approaches you plan to use for your study? Describe the datasets, research methods, and tools you will use to answer your scientific question(s).

What are the anticipated findings from the study? How would your findings contribute to the body of scientific knowledge in the field?

We anticipate that the HbA1c distribution of participants that self-reported having Type 2 Diabetes in the Personal Medical History Survey will have an average of 6.5% or greater. We expect this distribution to be similar to that of participants characterized as having Type 2 diabetes using EHR data.

Findings will be disseminate by the following:

➔

Collaborators: 1 SHARE

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jalbeco@researcher.allofus.org

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joon.lee@researcher.allofus.org

OWNER:

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WRITER:

ttouh@summer@researcher.allofus.org

OWNER:

ynchoa@researcher.allofus.org

WRITER:

atamir@researcher.allofus.org

READER:

pedinet@researcher.allofus.org

Workspace Information 1

Dataset: All of Us Dataset v3

Creation Date: Tue Feb 11 2020

Last Update: Thu Mar 26 2020

Data Access Level: Registered

Frequency: 1000
Case ID: 10000
 E2T

All of Us
DATA & RESEARCH CENTER



WORKSPACES

All of Us RESEARCHER WORKBENCH Workspace - HbA1c Distributions of Type 2 Diabetics

DATA ANALYSIS ABOUT All of Us Dataset v3

Cohorts

A cohort is a group of participants based on specific criteria.

Datasets

A dataset is a table containing data about a cohort that can be exported for analysis.

Show: Show All Cohorts Cohort Reviews Concept Sets Datasets

T2D_survey_any_hba1c

Self-reported Type 2 Diabetics with any HbA1c at value in tier: E=0

Last Modified: Dec 7, 2020

[View](#)

T2D_survey_any_hba1c

Self-reported Type 2 Diabetics with any HbA1c at value in tier: E=0

Last Modified: Feb 9, 2021

[Cohort Review](#)

A1c and Glucose

Last Modified: Feb 9, 2021

[Concept Set](#)

T2D survey cohort demo

Last Modified: Feb 9, 2021

[Concept](#)

Help Tips

Cohorts
A 'cohort' is a group of participants that a group of researchers are interested in. The cohort builder allows you to create and review cohorts and annotate participants in a researcher's study group.

Concept Sets
Concepts describe information in a patient's medical record, such as a condition they have, a prescription they are taking or their physical measurements. Subject areas such as conditions, drugs, measurements, etc. are called "domains". Concept sets are collections of concepts from a particular domain, that users can save and use to create a dataset for analysis.

Datasets
Datasets are analysis-ready tables that can be exported to analysis tools such as notebooks. Users can build and preview a dataset for one or more cohorts by selecting the desired concept sets and values for the cohorts.

Not finding what you're looking for? Visit our User Support Hub page or contact us.

All of Us RESEARCHER WORKBENCH

NIH National Institute of Health

QUICK LINKS

[Home](#) [Data Browser](#)
[Multikey Workspaces](#) [Research Hub](#)
[New Workspaces](#)

USER SUPPORT HUB

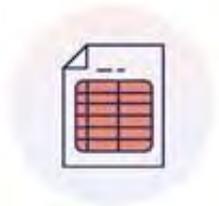
[Getting Started](#) [FAQ](#)
[Documentation](#) [Contact Us](#)
[Community Forum](#)



Cohort Builders

The screenshot displays a Cohort Builder interface with the following components:

- Include Participants / And Exclude Participants:** A header bar with an orange border, containing two sections for defining cohort groups.
- Group 1:** A section with a search bar containing "Cerebra, Cerebra Cortex | 80" and an "ADD CRITERIA" button.
- Group 2:** A section with an "ADD CRITERIA" button.
- Temporal:** A section with a "Group Count: 615" and an "AND" button.
- Total Count:** A badge indicating "Total Count: 615".
- Results by:** A section with dropdown menus for "Gender Identity" and "Age at CDR", and a "RESULTS" button.
- Gender Identity:** A horizontal bar chart showing the distribution of participants across gender identity categories: Female, Male, and Other. The Female category has the highest count, exceeding 600.
- Gender Identity, Age at CDR, and Race:** A stacked horizontal bar chart showing the distribution of participants across combinations of gender identity, age at CDR, and race. The categories include Female 45-64, Female 65+, Male 45-64, Male 65+, and Other 45-64.



Cohort Builders

Cohorts

A cohort is a group of participants based on criteria.



All of Us
Participants



Your Cohort

Datasets

A dataset is a table containing data about a cohort that can be exported for analysis.



Your Cohort



Data About
Your Cohort

Participant ID	HbA1c	Glucose
Participant ID 1	5.6	100
Participant ID 2	6.2	110
Participant ID 3	5.8	105

Your Dataset

Show: Show All

Cohorts

Cohort Reviews

Concept Sets

Datasets

T2D_survey_any_hba1c

Self-reported Type 2 Diabetes with any HbA1c lab value in their EHR

Last Modified: Dec 7, 2020

[View](#)

T2D_survey_any_hba1c

Self-reported Type 2 Diabetes with any HbA1c lab value in their EHR

Last Modified: Feb 9, 2021

[Cohort Review](#)

A1c and Glucose

Last Modified: Feb 9, 2021

[Concept Set](#)

T2D survey cohort demo

Last Modified:

[Concept](#)

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Datasets

Datasets are analysis-ready tables that can be exported to analysis tools such as notebooks. Users can build and preview a dataset for one or more cohorts by selecting the desired concept sets and values for the cohorts.

Not finding what you're looking for? Visit our User Support Hub page or contact us.



Dataset Builders

Datasets - Survey of Hypertensive Retirees

Build a dataset by selecting the variables and values for one or more of your cohorts. Then export the completed dataset to Notebooks where you can perform your analysis

1 Select Cohorts (Participants)

Prepackaged Cohorts

All Participants

Workspace Cohorts

Hypertensive Retirees

2 Select Concept Sets (Rows)

Prepackaged Concept Sets

Demographics

All Surveys

Fitbit Heart Rate Summary

3 Select Values (Columns) Deselect All

answer_concept_id

answer

survey_version_concept_id

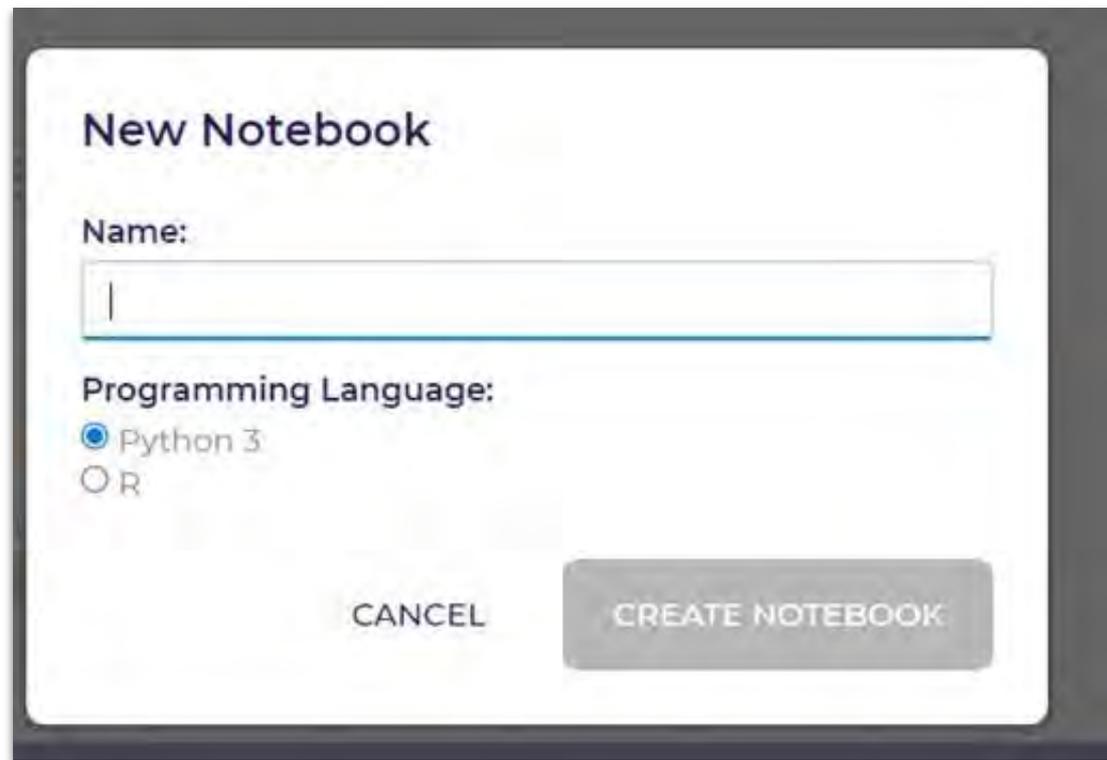
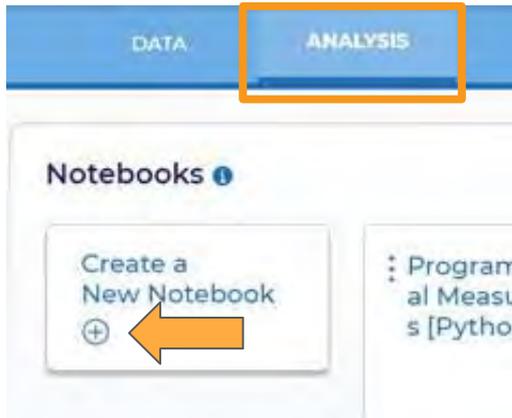
survey_version_name

SAVE DATASET

ANALYZE



Dataset Builders



NOTEBOOKS

DATA ANALYSIS

Notebooks ⓘ

Create a New Notebook (+)

Program al Meas... s [Python]

All of Us RESEARCHER WORKBENCH

Windows - Duplicate of how to Get Started with Registered Tier Data - Notebooks | Data 101 - Data Fundamentals [Python]

jupyter Data 101 - Data Fundamentals [Python]

File Edit View Insert Cell Kernel Help Widgets Help Snippets

Contents ⓘ

- 1 Objectives
- 2 Setup
 - 2.1 How to install software packages
 - 2.2 How to import installed software packages
 - 2.3 How to select the Cloud Data Repository
- 3 Data Availability Part 1
 - 3.1 How many participants have survey data
 - 3.2 How many participants have physical data
 - 3.3 How many participants have EHR data
 - 3.4 How many participants have CORE data
 - 3.5 How many participants have Fitbit data
 - 3.6 How many participants have more than one data type
- 4 Data Availability Part 2
 - 4.1 How many participants have data for each survey?
 - 4.2 How many participants have data for each physical measure?
 - 4.3 How many participants have data for each EHR data type?
 - 4.4 How many participants have data for each CORE data type?
 - 4.5 How many participants have data for each Fitbit data type?
- 5 Data Organization
 - 5.1 How are participant data organized?
 - 5.2 How many rows of data are in each table?
 - 5.3 How are data from different sources combined?
- 6 Example Queries
 - 6.1 Participant count by gender identity
 - 6.2 Participant count by race and ethnicity
 - 6.3 Participant count by state of residence
 - 6.4 How to interpret PPH responses
- 7 Expert Tip - Accessing CORE data

Count of participants with multiple data types

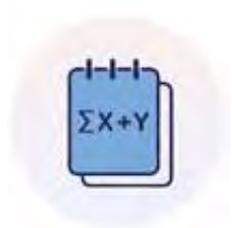
Legend: Survey (Purple), Data (Blue), Phys. Meas. (Green), Fitbit (Yellow)

Intersection	Count
Survey only	47216
Data only	286
Phys. Meas. only	0
Fitbit only	228
Survey & Data	2388
Survey & Phys. Meas.	0
Survey & Fitbit	0
Data & Phys. Meas.	9
Data & Fitbit	0
Phys. Meas. & Fitbit	0
Survey & Data & Phys. Meas.	306779
Survey & Data & Fitbit	0
Survey & Phys. Meas. & Fitbit	0
Data & Phys. Meas. & Fitbit	0
Survey & Data & Phys. Meas. & Fitbit	4831
Survey & Phys. Meas. & Fitbit	1287
Data & Phys. Meas. & Fitbit	101
Survey & Data & Fitbit	2175

4 Data Availability Part 2

How to delve a little deeper into data availability within each major data type (Modules 1-6. Physical &...

4.1 How many participants have data for each survey?



NOTEBOOK



All of Us
RESEARCHER WORKBENCH

State

- Danielle Wilfong
- Home
- Your Workspaces
- Featured Workspaces
- User Support Hub**
- Contact Us



User Support Hub

Search our knowledge base for answers to common questions

Explore All of Us Researcher Workbench Resources

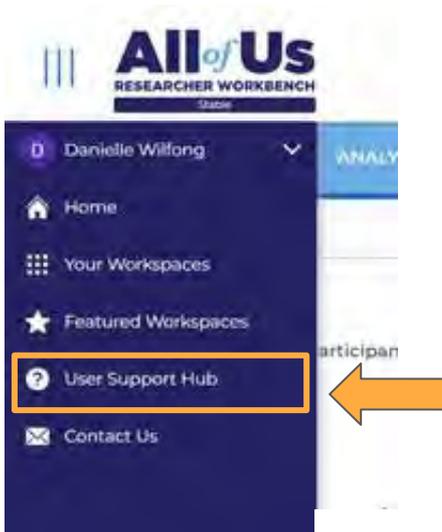
 Getting Started <small>How to the Successes! Getting started with All of Us Researcher Workbench</small>	 Policy <small>Get information about All of Us Data (open access and restricted)</small>	 Working with Data <small>How to use the All of Us Researcher Workbench</small>	 Credits and Billing <small>Find information about pricing for analysis and storage associated credits</small>
 Genomics <small>Find helpful resources to better understand the All of Us genomic dataset and how to analyze it</small>	 Surveys <small>Find helpful resources to understand and engage All of Us self-reported questionnaire data collected through surveys</small>	 EHRs <small>Find helpful resources to better understand and analyze clinical data derived from electronic health records (EHRs)</small>	 Other Types of Data <small>Discover how to analyze All of Us data from sources such as digital health (e.g. applications) and the U.S. Census</small>
 Videos <small>Tutorial, Q&A, and information about the dataset</small>	 Announcements <small>Release notes, news, and upcoming events</small>	 Community Forum <small>Ask your questions and comments for other users to see</small>	

Have a question or would like to make a request?

Send us specific questions or requests

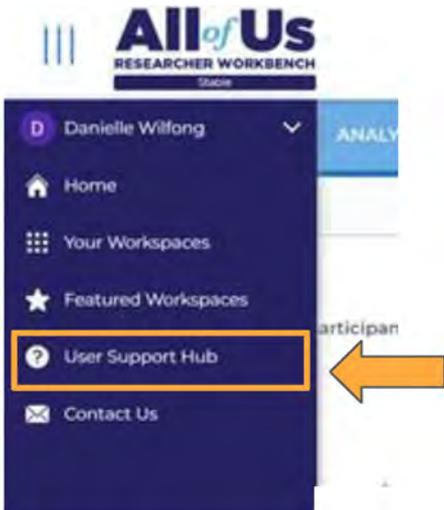
[SUBMIT A REQUEST](#)





These articles may be useful as you get started (login needed):

- [Estimate how much your project will cost](#)
- [Exploring concepts and concept relationships within Observational Medical Outcomes Partnership \(OMOP\)](#)
- [Selecting participants: using the Cohort Builder tool](#)
- [Introduction to All of Us Survey Collection and Data Transformation Methods](#)
- [Accessing geolocation data](#)
- [All of Us Research Program Policies for Researchers](#)



Estimate how much your project will cost

8 days ago Updated

Follow

Access to the *All of Us* Researcher Workbench is free, but because data analysis occurs in the Google Cloud environment, we do require you to pay for your own compute time after all of your initial credits have been used. During Beta, each registered researcher receives \$300 in initial billing credits to help pay for preliminary storage and computational costs acquired while running analyses in notebooks. If you expend all of your initial credits, please refer to [this article](#) to learn how you can create a billing account to link to your Researcher Workbench account so you can continue your research.

The specific cost of each workspace will depend on the amount of compute needed to perform your unique analysis. Below are several Featured Workspaces and total cost spent over the lifetime of that workspace (rounded to the nearest dollar), including development and testing, to get a better idea of what your project may cost.

Type of Featured Workspace	Workspace Name	Cost
Phenotype Library	Ischemic Heart Disease Phenotype	\$27
Phenotype Library	Dementia Phenotype	\$38
Phenotype Library	Depression Phenotype	\$8
Phenotype Library	Type 2 Diabetes Phenotype	\$11
Phenotype Library	Breast Cancer Phenotype	\$31
Demonstration Project	Cardiovascular Risk Scoring	\$34
Demonstration Project	Medication Sequencing	\$18
Demonstration Project	PheWAS Smoking	\$46

Virtual User Supports

Support Desk

Send us your questions.

Email us or use our “Help” icon to:

- Resolve technical issues
- Ask questions about our data or the research program
- Give us feedback or make suggestions
- and more...

Response in 1-2 business days.

support@researchallofus.org

New User Orientation

Zoom in for a live orientation.

Webinar objectives:

- Understand data & data organization
- Learn how to get started on Researcher Workbench
- Learn how to utilize the User Support Hub

Monthly

link emailed to all registered users

Office Hours

Get live, virtual help with questions.

Ask your questions live:

- Workflow implementation questions
- Data refreshers and updates
- Billing questions
- and more...

Bi-Weekly (Tues., Fri. 1-2pm CST)

*link emailed to all registered users
(recordings are also available)*



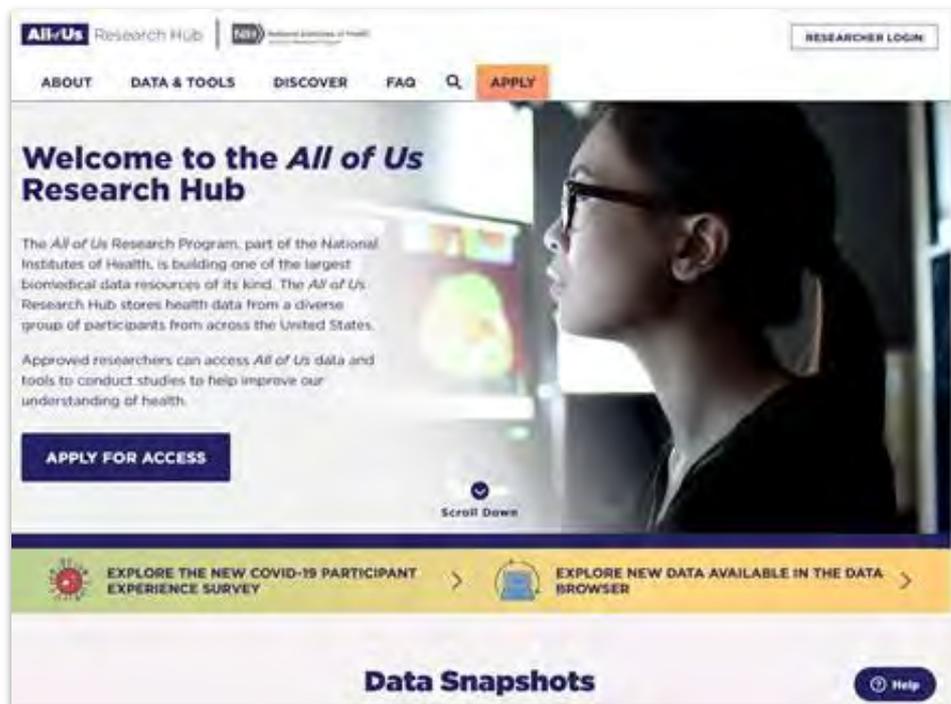
The DRC (Data and Research Center) also has a [YouTube Channel](#) that includes office hours sessions that can be made public

- [Office Hours Data Wrangling](#)
- [Optimizing Workflow in the Workbench](#)
- [Workflows in the *All of Us* Researcher Workbench: Nextflow and Cromwell](#)
- [Using R on the Workbench](#)
- [Advancing Cancer Research](#)
- [Controlled Tier Introduction](#)
- [OMOP Data Structure](#)
- [Workspace Tips and Tricks](#)
- [Writing a Meaningful Workspace Description](#)

The NIH All of Us Research Program has a YouTube Channel that offers testimonials and lectures

- [Creating New Knowledge Through the All of Us Researcher Workbench to Redress Health Disparities](#)

Opportunities to learn more about *All of Us*



Subscribe to Research Hub Newsletter to receive updates

Help us connect with other researchers!

Email ashley.e.green@vumc.org if you know of others interested in demos or training sessions



@AllofUsResearch

#JoinAllofUs

All of Us
DATA & RESEARCH CENTER

Part II

Application and Submission Information

Application Information

- [Applications must be submitted using: PA-20-272 Administrative Supplements to Existing NIH Grants and Cooperative Agreements \(Parent Admin Supp Clinical Trial Optional\)](#)
- To be eligible,
 - This competition is limited to recipients of RCMI U54 awards [made under RFA-MD-17-003, RFA-MD-17-006, RFA-MD-18-012, or RFA-MD-20-006](#)
 - The parent award must be active at the time of application
 - Have sufficient time left to complete the project within the parent award's current project period.

Submission Information

- [All Instructions in the SF424 \(R&R\) Application Guide and PA-20-272 must be followed.](#)

- Within the Research Strategy:
 - This section is limited to 6 pages
 - Should include a summary or abstract of the funded parent award or project
 - Description of the support provided by the parent project program
 - Significance of the pilot project; significant contribution to the field
 - Innovation of the pilot project
 - Approach of the pilot project

Award Information

- NIMHD intends to commit \$200,000 in FY 2022 to fund the award(s)
- An eligible applicant institution may propose one pilot research project
- Applicants may request no more than 1 year of support; the scope of the proposed project should determine the project period

Part III:

Review of Applications

Review of Applications

- ❖ **NIMHD program program staff** will assess the applications with the following criteria:
 - ❖ Proposed supplement increases or preserves the parent award's overall impact (Is project within scope of the parent grant?)
 - ❖ Overall impact and significance of proposed project
 - ❖ Advance understanding of minority health and health disparities
 - ❖ Enhance the candidate's potential for an independent scientific research career
 - ❖ Other Criteria
 - ❖ Adequate protection for human subjects; justified inclusion (women, minorities, ages)
 - ❖ Justified and reasonable budget, no more than \$200K
Direct costs

Part IV: Timeline

Timeline

- Application Due Date: June 27, 2022
- Review of Applications: July 2022
- Earliest Start Date: September 2022



Participant Questions



NIMHD Contacts

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